

WHAT IS CLAIMED IS:

1. A projection display apparatus that synthesizes and displays video images on a screen, the video images being projected by a plurality of projecting devices, the plurality of projecting devices
5 each by comprising:

a CRT (Cathode Ray Tube) having a neck portion, a fluorescent screen, and an electron gun arranged in the neck portion and including a cathode, the CRT
10 emitting an electron beam from the electron gun to the fluorescent screen;

a deflecting yoke arranged around an outer periphery of the CRT to deflect the electron beam from
the electron gun;

15 a velocity modulating coil provided around the outer periphery of the neck portion of the CRT and between the deflecting yoke and the cathode to modulate a horizontal scanning speed of the electron beam; and

a cylindrical magnetic shield arranged around
20 the outer periphery of the neck portion so as to cover an area from a cathode portion of the electron gun to the velocity modulating coil.

2. A projection display apparatus according to claim 1, wherein the magnetic shield has a main body
25 portion shaped like a cylinder which is concentric with an outer diameter of the neck portion and surrounding the velocity modulating coil, and a constricted portion

extending from the main body portion toward an edge of the neck portion and having a gradually decreasing diameter, the constricted portion being formed so as to cover a periphery of the cathode of the electron gun.

5 3. A projection display apparatus according to claim 1, wherein when an axial dimension of the main body portion is defined as L_s and an axial dimension of the constricted portion is defined as L_c , the magnetic shield is formed so that L_c/L_s is between $1/4$ and $1/3$.

10 4. A projection display apparatus that synthesizes and displays video images on a screen, the video images being projected by projecting devices for red, green, and blue, the plurality of projecting devices each comprising:

15 a CRT (Cathode Ray Tube) having a neck portion, a fluorescent screen, and an electron gun arranged in the neck portion and including a cathode, the CRT emitting an electron beam from the electron gun to the fluorescent screen;

20 a deflecting yoke arranged around an outer periphery of the CRT to deflect the electron beam from the electron gun;

 a velocity modulating coil provided around the outer periphery of the neck portion of the CRT and
25 between the deflecting yoke and the cathode to modulate a horizontal scanning speed of the electron beam;

 a cylindrical magnetic shield having a cylindrical

shield main body arranged around the outer periphery of the neck portion so as to cover an area from a cathode portion of the electron gun to the velocity modulating coil, and stays formed to extend from one end of the shield main body arranged around the outer periphery of the neck portion;

a circuit board to drive the velocity modulating coil; and

fixtures to attach the circuit board to the stays.

5. A projection display apparatus according to claim 4, wherein the circuit board to drive the velocity modulating coil has a ground pattern and is fixed to the stays so that the ground pattern contacts with the stays of the magnetic shield.

6. A projection display apparatus according to claim 4, wherein an arm is integrally formed at one end of the velocity modulating coil so as to lie opposite the stays, and the arm, the stays, and the circuit board are fixed together using the fixtures so that the stays are sandwiched between the arm and the circuit board.

7. A projection display apparatus according to claim 4, wherein the velocity modulating coil is attached to an outer periphery of the neck portion using a clamping band and a screw, and a window is formed in the magnetic shield so that the screw can be adjusted through the window.

8. A magnetic shield device for a CRT having an electron gun arranged in a neck portion of the CRT, the magnetic shield device comprising:

5 a cylindrical main body portion which can be attached to an outer periphery of the neck portion, has an inner diameter larger than an outer diameter of the neck portion, and covers an area of the electron gun except for a cathode portion; and

10 a constricted portion which extends from one end of a electron gun side of the main body portion, has a gradually decreasing diameter, and covers the cathode portion of the electron gun.